DOCUMENT RESUME

ED 199 675 CS 005 967

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TITLE The Effect of Instructions and Priming on the Use of Analogy Strategies in Reading.
PUB DATE Apr 81
NOTE 10p.; Paper presented at the Annual Meeting of the American Educational Research Association (Los Angeles, CA, April 13-17, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Comparative Analysis; *Decoding (Reading); Developmental Stages; Grade 2; Grade 5; Reading Difficulties; *Reading Instruction; *Reading Research; Reading Skills; *Teaching Methods; Word Recognition; *Word Study Skills
IDENTIFIERS Analogical Reasoning; *Analogy; *Reading Strategies

ABSTRACT

A study was conducted to examine (1) the type of instruction most likely to help both normal and learning disabled readers use the analogy strategy in reading novel words, and (2) how fifth grade disabled readers compared with normal second and fifth grade readers. Analogy strategies, the most abstract of the reading strategies, are generally associated with older, more competent readers, who compare new letter combinations in unknown words with already known combinations, thereby making generalizations about the unknown word based on what is known. The subjects, 80 students in each of the three classifications, were randomly assigned to one of four instructional conditions (verbal instructions only, priming only, both verbal instructions and priming, and control), tested on a word recognition task, and retested with a transfer task. The results showed that the three instructional conditions were equally and significantly better than the control condition in getting the subjects to use analogy strategies. Subjects in the condition "verbal instructions only" scored significantly better than the other groups on the transfer of training task. It was also shown that the fifth grade disabled readers and the second grade normal children were significantly different from the normal fifth grade students and consistently applied similar strategies. (RL)

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ED199675

The Effect of Instructions and Priming on the Use of Analogy Strategies in Reading

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The purpose of the present research was to investigate the factors which would facilitate the use of analogy strategies by normal and learning disabled readers in reading unknown words. Marsh, Friedman, Welch & Desberg (1977) indicated that five reading strategies appear sequentially as children grow older and develop reading skill. The first two are substitution strategies, with and without the use of graphemic clues. The next two are decoding strategies, the first of these being a left-to-right processing and the second being a hierarchical strategy that requires the use of "rules" in order to correctly decode a word. The final strategy is the analogy strategy, where the reader must compare new letter combinations in words to already known combinations and make generalizations about the unknown word based on what is known. Analogy strategies are the most abstract of the strategies used in reading unknown words, and are generally associated with older, more competent readers. Marsh, Desberg & Cooper (1977) reported a developmental increase in the use of analogy strategies from fifth grade to college age in a production task. However, in a judgement task, the fifth grade subjects were similar to the college students in their choice of the analogy strategy, indicating that a production deficiency was responsible for the developmental change in strategies. A later study by Marsh, Friedman, Desberg & Saterdahl

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(1979) in which the analogical bases of novel word construction was explained to the subjects, indicated that both normal second grade children and reading disabled fourth grade students increased in their use of the analogy strategy under these conditions. Baron (1979) showed that normal second grade children can be instructed in the use of the analogy strategy for reading novel words.

The present study attempted to discover the type of instruction most likely to help both normal and learning disabled readers to use the analogy strategy in reading novel words. Other studies had not dealt with instructional strategies. The study also compared children reading at grade level who were second and fifth graders to reading disabled EH fifth graders to assess the hypothesis that the reading disabled students use the same strategies as younger, normal achieving students who read at grade level.

Three conditions are included in the study. Condition I consisted only of a verbal instruction to try to think of a known word (analogue) when shown a non-word on a card. They were asked to think of a word that would look like the non-word if the first letter were changed. They were then told to read the non-word in the same way as they would the analogue word they thought of. In a second condition, the subject was shown a card with the analogue word written in red (a prime)and the corresponding non-word below it in blue. The subject was asked to read the red word first, and then the blue word, with no instruction in how to read either of the words. A third condition combined the

verbal instructions with the prime. A fourth condition was a control group who were shown only the non-words and asked to read them with no instruction or priming.

Methodology

A total of 240 subjects, 80 of whom were normal achieving second graders, 80 of whom were normal achieving fifth graders, and 80 of whom were fifth graders identified by their school districts as Educationally Handicapped(EH) or Learning Disabled (LD) and reading two to three grades below grade level, were administered the WRAT Level 1 Reading Test to determine whether they were at, above, or below grade level in word recognition ability. Two examiners trained by the investigator then randomly assigned the subjects to one of the four conditions: INSTRUCTION ONLY, PRIME ONLY, BOTH, or CONTROL(no instruction). They were given the Word Recognition Task(WRT) a ten non-word test used as a training task, and designed to indicate the strategies the subjects were using to read the non-words. Following a five minute break during which time the examiners recorded the subjects' individual data, the five word Transfer Task (TT) was administered. This task was designed in the same way as the WRT, and was used to see if the learning from the previous task would generalize to a new, similar task without further instruction. All the non-words had analogues that were of relatively high frequency as determined by the American Heritage Word Frequency List (Carroll, Davies & Richman,1971) and were considered to be known words to second and fifth graders. All

the words were presented in random order to prevent order effects. An easy, similar task followed the TT in order to insure that all participants left the experiment with a feeling of successful task completion.

Two separate 4 x 3 ANOVAs were computed: the first with the number of "correct" (analogy strategy) responses on the WRT as dependent variable and age/grade and treatments as independent variables, the second with the number of "correct" responses on the TT as dependent variable and the same independent variables as the WRT.

Findings

Significant main effects for age/grade and also for treatments were found in both the WRT and the TT. There were no significant interactions for either dependent variable.

Post-hoc (Newman-Kuels) comparisons showed that for the WRT, all the instructional conditions were equally and significantly better than the Control condition in getting the subjects to use analogy strategies. For the TT, the INSTRUCTION ONLY condition was significantly better than the other types of treatment. It was also shown that the EH/LD fifth graders and the normal second graders were significantly different from the normal achieving fifth graders reading at or above grade level.

Analyses of the strategies used by the different subjects showed that the EH/LD ten year olds consistently applied strategies that were similar to the normal achieving seven year olds, lending support to a "developmental lag" hypothesis.

Conclusion

The results of this study showed that although both verbal instruction and priming were effective in increasing the subjects' use of the analogy strategy, the only condition that generalized to new words on the Transfer Task was the INSTRUCTION ONLY treatment. This was due, perhaps, to the fact that this condition required the student to generate an analogy first. Having done this, there is probably a better set to transfer this skill to a new task. The priming condition seemed to lead to the use of the analogy strategy only on the particular words used, while the BOTH condition, which combined instruction with priming probably was not as successful because, in effect, the "thinking" was already done for the student. The INSTRUCTION ONLY condition was successful with young students, who would not generally be using the analogy strategy, and with the older, learning disabled students as well. The study indicated that the analogy strategy is a very powerful tool in helping all readers to read novel words. It is important to know that this strategy can be successfully taught to all readers. It is unlikely that a magic "key" will be discovered to unlock all the many and varied barriers to learning to read faced by the learning disabled student. The analogy strategy is but one more effective tool in helping these students to read new words. It should be systematically taught to all young readers, along with the decoding strategies. Normal achieving students eventually

will use the analogy strategy to varying degrees intuitively, but disabled readers will not. They will need to be taught to use this strategy as another method of word attack. Given sufficient appropriate practice, they too will be able to use the analogy strategy with success.

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SAMPLE OF THE WORD RECOGNITION TASK

NON-WORD	ANALOGUE WORD (S)
1. nould	would (could, should)
2. woung	young
3. faugh	laugh (taught)
4. lomb	comb (bomb, tomb)
5. vigh	high (sigh)
6. reavy	heavy
7. talm	calm (palm)
8. huilt	built (guilt)
9. dalk	talk (chalk, walk)
10. bachine	machine

Table A

4 x 3 ANOVA with WRT as Dependent Variable and Age/ Grade and Treatments as Independent Variables

SV	MS	df	F
Total	8.772	239	
Between	102.800	11	
Age/Grade	434.787	2	102.6419*
Treatments	81.878	3	19.3292*
Age/Grade and Treatments	2.599	6	.6135
Within (Error)	4.236	228	

*p < .05.

Table B

4 x 3 ANOVA with TT as Dependent Variable and Age/ Grade and Treatments as Independent Variables

SV	MS	df	F
Total	2.059	239	
Between	6.162	11	
Age/Grade	23.504	2	12.6333*
Treatments	5.606	3	3.0129*
Age/Grade and Treatments	.660	6	.3546
Within (Error)	1.861	228	

*p < .05.